**AMENDMENTS TO THE CLAIMS:**

*Set forth below in ascending order, with status identifiers, is a complete listing of all claims currently under examination. Changes to any amended claims are indicated by strikethrough and underlining. This listing also reflects any cancellation and/or addition of claims.*

---

Claim 1 (currently amended)

A method for isolating a component of a chemical mixture, comprising:

(a) identifying an analytical retention time and corresponding analytical chromatographic parameters for eluting the component through an analytical column;

(b) based on the analytical retention time and the corresponding analytical chromatographic parameters, determining preparative chromatographic parameters to isolate the component at an accelerated retention time using a preparative column that is different from the analytical column;

(c) eluting the chemical mixture through the preparative column using the preparative chromatographic parameters; and

(d) isolating the component at the accelerated retention time.

Claim 2 (currently amended)

The method of claim 1, further comprising pre-selecting the accelerated retention time ~~in step (b)~~.

Claim 3 (currently amended)

The method of claim 1, wherein the accelerated retention time ~~in step (b)~~ is associated with a reduced retention volume for the component.

Claim 4 (currently amended)

The method of claim 1, further comprising ~~determining the analytical retention time in step (a) by~~ eluting the component through ~~an~~the analytical column using the analytical chromatographic parameters.

Claim 5 (currently amended)

The method of claim 1, wherein eluting the chemical mixture ~~in step (c)~~ comprises:

(i) varying a composition associated with a mobile phase for a gradient time interval; and

(ii) injecting the mobile phase into the preparative column.

Claim 6 (original)

The method of claim 5, wherein varying the composition associated with the mobile phase comprises varying a polarity of the mobile phase in a linear gradient for the gradient time interval.

Claim 7 (currently amended)

The method of claim 6, wherein the analytical chromatographic parameters ~~in step (a)~~ include a gradient steepness parameter, and wherein determining the preparative chromatographic parameters ~~in step (b)~~ comprises determining the preparative chromatographic parameters while holding the gradient steepness parameter constant.

Claim 8 (currently amended)

The method of claim 5, wherein determining the preparative chromatographic parameters ~~in step (b)~~ comprises determining an initial composition associated with the mobile phase.

Claim 9 (currently amended)

The method of claim 5, wherein determining the preparative chromatographic parameters ~~in step (b)~~ comprises determining a final composition associated with the mobile phase.

Claim 10 (currently amended)

The method of claim 5, wherein determining the preparative chromatographic parameters ~~in step (b)~~ comprises determining the gradient time interval.

Claim 11 (currently amended)

A gradient elution chromatography method, comprising:

(a) identifying ~~at least one~~a component in a chemical mixture;

(b) identifying a first set of gradient elution parameters to elute the component through a first column at a first elution time;

(c) using the first set of gradient elution parameters, determining a second set of gradient elution parameters to elute the component through a second column at a second elution time, wherein the first column and the second column have different sizes; and

(d) eluting the chemical mixture through the second column using the second set of gradient elution parameters.

Claim 12 (original)

The gradient elution chromatography method of claim 11, further comprising collecting the component within a time interval that includes the second elution time.

Claim 13 (original)

The gradient elution chromatography method of claim 11, wherein the first set of gradient elution parameters and the second set of gradient elution parameters include the same gradient steepness parameter.

Claim 14 (currently amended)

The gradient elution chromatography method of claim 11, wherein determining the second set of gradient elution parameters ~~in step (c)~~ comprises adjusting an initial composition of a mobile phase to elute the component through the second column at the second elution time.

Claim 15 (currently amended)

The gradient elution chromatography method of claim 11, wherein determining the second set of gradient elution parameters ~~in step (c)~~ comprises adjusting a gradient time interval during which a mobile phase composition is varied to elute the component through the second column at the second elution time.

Claim 16 (currently amended)

The gradient elution chromatography method of claim 11, wherein ~~additional components are identified in step (a), step (d)~~identifying the component comprises eluting a first portion of the chemical mixture through the first column using the first set of gradient elution parameters, and ~~steps (b) (d) are repeated for each additional component using~~eluting the chemical mixture through the second column comprises eluting a ~~remainder~~second portion of the chemical mixture through the second column using the second set of gradient elution parameters.

Claim 17 (currently amended)

A method to separate a component of a chemical mixture, comprising:

(a) identifying the component by eluting a first portion of the chemical mixture through a first column using a first set of gradient elution parameters;

(b) identifying a first retention time for the component associated with the first column and the first set of gradient elution parameters;

(c) using the first retention time and the first set of gradient elution parameters, determining a second set of gradient elution parameters to elute the component through a second column at a second retention time, wherein the first column and the second column have different sizes; and

(d) separating the component by eluting a second portion of the chemical mixture through the second column using the second set of gradient elution parameters.

Claim 18 (original)

The method of claim 17, wherein the first column is an analytical column, and wherein the second column is a preparative column.

Claim 19 (original)

The method of claim 17, wherein the first column and the second column comprise the same stationary phase.

Claim 20 (currently amended)

The method of claim 17, wherein determining the second set of gradient elution parameters ~~in step (c)~~ comprises determining an initial polarity associated with a mobile phase that is injected into the second column.

Claim 21 (original)

The method of claim 17, wherein the first set of gradient elution parameters and the second set of gradient elution parameters are characterized by the same gradient steepness parameter.

Claim 22 (new)

The method of claim 1, wherein the analytical column and the preparative column have different sizes.

Claim 23 (new)

The gradient elution chromatography method of claim 11, wherein the first column and the second column have different diameters.

Claim 24 (new)

The gradient elution chromatography method of claim 11, wherein the first column and the second column have different lengths.

Claim 25 (new)

The method of claim 17, wherein a diameter of the second column is greater than a diameter of the first column.

Claim 26 (new)

The method of claim 17, wherein a length of the second column is greater than a length of the first column.